

WHAT IS CLAIMED IS:

1. A method for routing communications at a mobile station, comprising:
at a mobile station, determining one or more routing metrics associated with
each of a plurality of communication paths coupling the mobile station and a
destination device, wherein at least one of the routing metrics comprises the link
quality of at least one wireless communication link included in each of the
communication paths;

at the mobile station, receiving routing information from one or more routers
coupling the mobile station and the destination device; and

routing a communication to the destination device based on the determined
routing metrics and the received routing information.

2. The method of Claim 1, wherein determining the link quality of the
wireless communication link comprises measuring the link quality of the wireless
communication links immediately before routing the communication.

3. The method of Claim 1, wherein determining the link quality of the
wireless communication link comprises measuring the bit error rate of the wireless
communication link.

4. The method of Claim 1, wherein determining the link quality of the
wireless communication link comprises measuring the link quality using a control
channel established with a device with which the wireless communication link is to be
established.

5. The method of Claim 1, wherein at least two of the communication
paths include wireless communication links using different wireless communication
protocols.

6. The method of Claim 5, wherein at least one of the wireless
communication protocols is not a cellular telephone communication protocol.

7. The method of Claim 1, wherein routing the communication comprises transmitting the communication from the mobile station using a wireless communication interface of the mobile station.

5 8. The method of Claim 1, wherein at least one of metrics comprises the power requirements of at least one wireless communication link included in each of the communication paths.

10 9. The method of Claim 1, wherein the communication comprises a packet-based communication.

10. The method of Claim 1, wherein the communication comprises a circuit-switched communication.

15 11. The method of Claim 1, wherein the routing information received at the mobile station comprises network topology information.

20 12. The method of Claim 1, wherein the routing information received at the mobile station comprises a routing table or a portion of a routing table.

13. The method of Claim 1, further comprising communicating routing information from the mobile station to one or more of the routers coupling the mobile station and the destination device to enable the routers to transmit communications from the destination device to the mobile station.

14. A mobile station, comprising:

a plurality of communication interfaces enabling a plurality of wireless communication links to the mobile station; and

a router coupled to the communication interfaces and operable to:

5 maintain one or more metrics associated with each of a plurality of communication paths coupling the mobile station to a destination device, wherein at least one of the metrics comprises the link quality of a wireless communication link to the mobile station included in each of the communication paths; and

10 receive routing information from one or more routers coupling the mobile station and the destination device; and

route a communication to the destination device based on the maintained routing metrics and the received routing information.

15 15. The mobile station of Claim 14, wherein the router is further operable to determine the link quality of the wireless communication links immediately before the selection of a communication path.

20 16. The mobile station of Claim 14, wherein the router receives link quality information from another component of the mobile station.

17. The mobile station of Claim 14, wherein the router is further operable to determine the bit error rate of the wireless communication link to determine link quality.

25 18. The mobile station of Claim 14, wherein the router is further operable to determine the link quality of the wireless communication link using a control channel established with a device with which the wireless communication link is to be established.

30 19. The mobile station of Claim 14, wherein at least two of the wireless communication interfaces use different wireless communication protocols to enable wireless communication links to the mobile station.

20. The mobile station of Claim 19, wherein at least one of the wireless communication protocols is not a cellular telephone communication protocol.

5 21. The mobile station of Claim 14, wherein the router is further operable to determine at least a portion of one or more communication paths available between the mobile station and the destination device by determining the availability of one or more wireless communication links to the mobile station.

10 22. The mobile station of Claim 21, wherein the router is further operable to determine at least a portion of one or more communication paths available between the mobile station and the destination device by receiving information about the availability of one or more communication links from one or more routers external to the mobile station.

15 23. The mobile station of Claim 14, wherein routing the communication comprises transmitting the communication to one of the wireless communication interfaces.

20 24. The mobile station of Claim 14, wherein at least one of metrics comprises the power requirements of at least one wireless communication link included in each of the communication paths.

25 25. The mobile station of Claim 14, wherein the communication comprises a packet-based communication.

26. The mobile station of Claim 14, wherein the communication comprises a circuit-switched communication.

30 27. The mobile station of Claim 14, wherein the routing information received by the router comprises network topology information.

28. The mobile station of Claim 14, wherein the routing information received by the router comprises a routing table or a portion of a routing table.

29. The mobile station of Claim 14, wherein the router is further operable to communicate routing information to one or more of the routers coupling the mobile station and the destination device to enable the routers to transmit communications from the destination device to the mobile station.

5

30. Software for routing communications at a mobile station, the software embodied in a computer readable medium and operable to:

determine, at a mobile station, one or more routing metrics associated with each of a plurality of communication paths coupling the mobile station and a destination device, wherein at least one of the routing metrics comprises the link quality of at least one wireless communication link included in each of the communication paths;

receive routing information, at the mobile station, from one or more routers coupling the mobile station and the destination device; and

route a communication to the destination device based on the determined routing metrics and the received routing information.

31. The software of Claim 30, wherein determining the link quality of the wireless communication link comprises determining the link quality of the wireless communication links immediately before routing the communication.

32. The software of Claim 30, wherein determining the link quality of the wireless communication link comprises determining the bit error rate of the wireless communication link.

33. The software of Claim 30, wherein determining the link quality of the wireless communication link comprises determining the link quality using a control channel established with a device with which the wireless communication link is to be established.

34. The software of Claim 30, wherein at least two of the communication paths include wireless communication links using different wireless communication protocols.

35. The software of Claim 34, wherein at least one of the wireless communication protocols is not a cellular telephone communication protocol.

36. The software of Claim 30, wherein at least one of metrics comprises the power requirements of at least one wireless communication link included in each of the communication paths.

5 37. The software of Claim 30, wherein the communication comprises a packet-based communication.

38. The software of Claim 30, wherein the communication comprises a circuit-switched communication.

10 39. The software of Claim 30, wherein the routing information received comprises network topology information.

15 40. The software of Claim 30, wherein the routing information received comprises a routing table or a portion of a routing table.

20 41. The software of Claim 30, further operable to communicate routing information from the mobile station to one or more of the routers coupling the mobile station and the destination device to enable the routers to transmit communications from the destination device to the mobile station.

42. A system for routing communications at a mobile station, comprising:

means for determining, at a mobile station, one or more routing metrics associated with each of a plurality of communication paths coupling the mobile station and a destination device, wherein at least one of the routing metrics comprises the link quality of at least one wireless communication link included in each of the communication paths;

means for receiving, at the mobile station, routing information from one or more routers coupling the mobile station and the destination device; and

means for routing a communication to the destination device based on the determined routing metrics and the received routing information.